

**Subregion:** EAST **County:** INYO

**Applicant:** EASTERN SIERRA INSTITUTE FOR COLLABORATIVE EDUCATION

**Project Title:** EASTERN SIERRA WATERSHED PROJECT

**Reference Number:** SNC 070281

This project will expand and extend a school-based watershed education program that reaches over 1,000 students in Inyo County focused on one of the largest river restoration projects in the United States. In December 2006, the Los Angeles Department of Water and Power returned water to 63 miles of the Lower Owens River that had been dry since water was diverted to Los Angeles in 1913. This project is a collaborative educational effort of Eastern Sierra Institute for Collaborative Education (ESICE), Inyo Office of Education, and Bureau of Land Management (BLM) and has leveraged funding from public and private sources in the past. Currently this project includes matching funds and in-kind services from numerous sources, including the Inyo County Office of Education, California Department of Fish and Game, BLM, the Inyo/Mono Fisheries Commission, and private donations in the amount of \$57,985.

- Creek studies to help assess the health of the watershed;
- Monitoring to determine how rewatering affects native and introduced species;
- Stream monitoring to assess physical changes to the channel and riverbed;
- Archeological, geological, plant, and aquatic ecology studies of Fish Slough, a designated area of critical ecological concern.

- Developing online access to water quality, wildlife, soils, plants, aquatic invertebrates, and stream channel morphology data collected in the Lower Owens River area;
- Developing a program focusing on traditional uses of water with current scientific practices, and integrating the program into the Paiute Mountain School Camp - an annual five-day wilderness experience for over 60 Paiute youth.

- Summarizing existing data, designing data analysis curriculum, designing a new website, conducting online data analysis workshops, and evaluations with teachers, scientists, docents, and students;
- Reviewing Paiute Mountain School Camp activities and integrating in the Eastern Sierra Watershed Project activities; recruiting and training School Camp staff and speakers, and evaluating the School Camp program;
- Conducting series of staff and docent trainings;
- Conducting five field programs for grade school students from multiple classes in multiple schools;
- Conducting a survey to report the degree to which the knowledge, skills, and resources for teachers and student have been positively impacted or enhanced;
- Providing progress reports to the Conservancy every six months for the project duration, and a final performance report on the project once completed.

## PROJECT SCHEDULE

DETAILED PROJECT DELIVERABLES	TIMELINE
Web design, develop data analysis workshop, summarize existing data, integrate ESWP activities into School Camp Program	April – September 2008
Conduct teacher/scientist online data analysis workshop, review School Camp activities, design online data analysis curriculum, conduct camp staff training workshop	June 2008- August 2008
Complete and submit six-month progress report to SNC	October 2008
Conduct teacher/docent online data analysis workshop, conduct first series of field programs, class room data analysis, camp evaluation	September 2008- November-2008
Revise data analysis, web revisions, evaluate data analysis curriculum, recruit School Camp staff and speakers	December 2008-February 2009
Complete and submit twelve-month progress report to SNC	April 2009
Conduct second series of field programs, classroom data analysis, School Camp registration	March 2009- May 2009
Conduct teacher evaluation of online data analysis and curriculum, web revisions, conduct School Camp staff training	June 2009-August 2009
<b>Final Report/Final Payment Request</b>	<b>October, 2009</b>

## PROJECT COSTS

PROJECT BUDGET CATEGORIES	TOTAL SNC FUNDING
Project managers salaries	\$69,400
Teacher development/speakers/ training	3,000
Supplies	1,600
Transportation	2,200
On-line data costs	5,000
Administrative cost	10,400
<b>GRAND TOTAL</b>	<b>\$91,600</b>

### Letters of Support:

- Bureau of Land Management
- Bishop Union Elementary School

### Recommendation:

Staff recommends authorization of this grant for the amount of \$91,600, decreasing the requested amount by \$20,000 to account for the Paiute Mountain School Camp matching funds.



## (SNC 070281) Eastern Sierra Watershed Project Summary

The Eastern Sierra Institute for Collaborative Education (ESICE) is a non-profit organization in Bishop, California, providing innovative approaches to education. For seven years our **Eastern Sierra Watershed Project (ESWP)** has provided every Inyo County middle school student the opportunity to participate in the monitoring of the Lower Owens River Project (LORP), one of the largest river restoration projects in the United States, which is being implemented by the Los Angeles Department of Water and Power (LADWP) and Inyo County. Through ESWP local students learn about the complex factors affecting watersheds and practice critical thinking skills necessary to make wise decisions on issues affecting the environment. This proposal is to maintain, enhance and extend the existing project through the following:

> **Maintain ESWP's school-based watershed education program.** Over 1,000 students participate in ESWP's field and classroom activities each year. 6<sup>th</sup> grade students are introduced to watershed studies through field investigation on local creeks. 7<sup>th</sup> and 8<sup>th</sup> students participate in data collection and analysis on the Lower Owens River. In 2004, in partnership with the Bureau of Land Management, ESWP was expanded from the middle schools to include programs for 2<sup>nd</sup> and 4<sup>th</sup> grade students introducing younger students to aquatic systems through the *Fish Slough Hands on the Land Program*. The key to making these field trips a valuable learning experience for each individual student is small group activities led by volunteer community docents. In addition, ESWP provides classroom materials, backed by professional development workshops, which integrate the field trip experience into the classroom curriculum.

>**Develop online access to student data.** Since 2002, local students have been collecting data on water quality, wildlife, soils, plants, aquatic invertebrates, and stream channel morphology on the Lower Owens River. In December 2006, the LADWP reintroduced water into the river. In the fall of 2007 students began documenting changes that have taken place due to the rewatering. Over the past several years, we have received numerous inquiries from teachers, scientists, community members and students for access to the student data online. We are working to create an online database of student-collected data, which can be queried to answer a variety of questions related to the effects of the rewatering on the Lower Owens River ecosystem.

>**Paiute Mountain School/Camp.** The Paiute Mountain School is a summer camp program developed by the Traditional Ecological Knowledge program (TEK). This five-day wilderness experience, for over 60 Paiute youth ages 10-17, is held in July in the Sierra Nevada Mountains. Together the Paiute counselors, elders and students learn about fishing, hunting, traditional foods and medicine. Embedded in the activities are exercises, language, and stories instilling in the Paiute youth their responsibility to protect and respect the earth and the life it supports. In partnership with ESWP, the traditional uses of water will be integrated with current scientific practices, helping the Paiute youth to appreciate the importance of taking care of the water and land for future generations.

ESWP operates in tandem with several major partners. Inyo County Office of Education coordinates the teacher professional development workshops. The Fish Slough program is jointly run with the Bureau of Land Management. The Los Angeles Department of Water and Power collaborates on the Lower Owens River programs. Over the last seven years, funding has come from a variety of sources. We currently operate under grants from the H.N. and Frances C. Berger Foundation, Ringing Rocks Foundation, and donations from private businesses and local community organizations. We are asking the Sierra Nevada Conservancy for \$71,600 to continue the Eastern Sierra Watershed Project's school-based program and create online access to student data and \$40,000 to fund the Paiute Mountain School/Camp for a total of \$111,600.